

### REMARKS

Claims 6 to 16 now are pending.

Applicants respectfully request reconsideration of the present application in view of this amendment.

Claims 6 to 8, 10 to 14, and 16, were rejected under 35 U.S.C. § 102(b) as being anticipated by U.S. Patent No. 3,635,552 to De Lang ("De Lang reference").

Applicants respectfully submit that the De Lang reference does not identically describe each and every feature of the claims.

The De Lang reference describes using an arranged light source 1 which strikes a certain dividing mirror 3 and transmitting one half of the incident beam to the reference mirror 5 and reflecting the other half to an object 4 to be tested. *Col. 2, lines 28-44*. The De Lang reference uses an arrangement of reflection by mirrors to convert polarized light into mirrors, a linear polarizer, a  $\lambda/4$  plate into circularly polarized light. The De Lang reference does not teach the entire structure of the present invention – and does not suggest in a manner to one skilled in the art to take its analyzer, use it in a specified way (and placement in the setup) with the other features required by the claims in the present application.

Claim 6 is directed to a tunable interferometer for measuring an optical surface, including *a polarizer polarizing the first interference beam and the second interference beam so that the first interference beam and the second interference beam each have a different polarization state relative to one another; and an analyzer positioned at an output of the interferometer, the analyzer having a variable polarization state, the analyzer tuning the interferometer as a function of the polarized first interference beam and the second interference beam, wherein depending on the polarization state of the analyzer, an additional phase is introduced into at least one of the first and second interference beams of different polarizations so that an interference fringe pattern is displaced by a distance*. The 1974 De Lang reference does not identically recite each and every feature of claim 6 including the required analyzer's tuning and state configurations. Accordingly, Applicants respectfully submit that claim 6, and its dependent claims 7, 8, 10, and 11, are allowable. Since claim 12 recites features analogous to those of claim 6, claim 12 and its dependent claims 13, 14, and 15, are also believed allowable. In light of the foregoing, withdrawal of the rejection under 35 U.S.C. § 102(b) of claims 6 to 8, 10 to 14, and 16, is respectfully requested.

Claims 9 and 15 were rejected under 35 U.S.C. § 103(a) as being unpatentable over the De Lang reference in view of U.S. Patent No. 5,627,666 to Sharp et al. ("Sharp reference"). Claims 9 and 15 depend from claims 6 and 12, respectively, and are

allowable over the De Lang reference for at least the same reason(s) as claims 6 and 12 discussed above.

The Sharp reference does not cure the deficiencies of the De Lang reference. The Sharp reference appears to concern a liquid crystal phase modulator using cholesteric circular polarizers, where a phase modulator has an electro-optically rotatable smectic liquid crystal half-wave retarder in combination with a cholesteric liquid crystal circular polarizer. The Sharp reference mentions using liquid crystal cells which have optic axes which are rotatable upon application of an electric field, and to increase the tuning range more than one smectic liquid crystal cell is used in series. *Col. 2, lines 35-46*. The Sharp reference does not appear to teach or suggest using an analyzer in the manner described, such as that required by claims 9 and 15, to tune an interferometer.

Accordingly, Applicants respectfully submit that the De Lang and Sharp references, in combination or alone, do not teach or suggest the invention of claims 9 and 15. Withdrawal of the rejection of claims 9 and 15 under 35 U.S.C. § 103(a) over the De Lang reference in view of the Sharp reference is respectfully requested.

It is respectfully submitted that claims 6 to 16 are allowable and that the rejections of the claims under 35 U.S.C. §§ 102(b), 103(a) should be withdrawn.

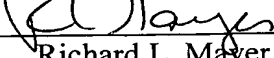
#### CONCLUSION


In view of the foregoing, it is believed that the rejections of claims 6 to 16 have been obviated, and it is respectfully submitted that all claims 6 to 16 are presently allowable.

It is therefore respectfully requested that the rejections be withdrawn, and that the present application issue as early as possible.

Respectfully submitted,  
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